established at British Guiana, and lately a scheme of botanical stations has been put forth to suit the circumstances of the smaller islands, described in these columns (vol. xxxv. pp. 248–250). This scheme of botanical stations for the West Indies has been very carefully and assiduously fostered at Kew, and it appears now as if it were likely to be fully carried out. It was felt that the smaller islands under present circumstances could not support any considerable organization of their own, but, on the other hand, if they joined together and affiliated their stations to one or other of the larger gardens there were good grounds for believing that satisfactory results would be attained.

Stations have been already established at Grenada, St. Vincent, St. Lucia, Barbados, and Antigua, while others are in course of being established at Dominica, and St. Kitts, and Nevis. The curators of these stations are carefully trained men (mostly from Kew), whose chief qualification is a thorough knowledge of horticultural methods as applied to tropical plants. They devote themselves to the maintenance of the stations as centres for the growth and distribution of economic plants, and they carry on experiments with the view of improving old or introducing new industries. It may readily be gathered that the objects of these stations are thus of a very simple and unassuming character. They necessarily work within narrow limits. They cannot give much attention to plants of a purely decorative character, or, again, to the maintenance of large areas under cultivation as pleasure grounds. The main object in view is to meet the special circumstances of the West Indies at the present time, and do all that is possible to encourage a diversified system of cultural industries so that they may not suffer so much as hitherto from fluctuations of prices in the chief staples.

It is believed that the Botanical station scheme will eventually meet the wants of each island in a simple and economical manner. It will become the basis of a federation for purely economic purposes likely to be generally beneficial both to the European planter and the Negro small proprietor. The stations will, it is hoped, have the occasional supervision of the heads of the Botanical Departments at Jamaica and Trinidad, and they will draw from thence such supplies of seeds and plants as may be required from time to time for their special wants.

In the organization of the scheme successive Secretaries of State for the Colonies have taken a warm interest, while the elaboration of the details has necessarily to a large extent fallen upon Kew. As the scheme took root, the discussion of these details involved a rather heavy burden of correspondence. It was eventually felt to be advisable both by the West Indian Governments immediately concerned and by the Colonial Office, that one of the Kew Staff should proceed to the West Indies in order to advise on the spot as to the various questions incidental to the successful start of the various stations. The mission was accordingly intrusted to the Assistant-Director, Mr. Morris, who has had a considerable experience of planting industries both in the Old World and in the New. Mr. Morris left by the mail of November 12, and will be absent about three months.

NOTES.

MR. W. F. R. WELDON, F.R.S., has been appointed by the Council of University College, London, to the Jodrell Professorship of Comparative Anatomy and Zoology, which was held for sixteen years by Prof. Ray Lankester. Mr. Weldon is a Fellow of St. John's College, Cambridge, and is a lecturer on Invertebrate Morphology to the University of Cambridge.

THE Council of the Royal Geographical Society has agreed to grant £200 to Mr. Theodore Bent to aid him in exploring the now famous ruins in Mashonaland.

ACCORDING to the *Colonies and India*, the important post of Superintendent General of Education in the Cape Colony will fall vacant at the end of the present year, owing to the retirement, after 30 years' service, of Sir Langham Dale, K.C.M.G. This gentleman was in 1848 selected by Sir John Herschel to be Professor of Classics in the South African College, Cape Town, and in 1859 was appointed to the office which he now holds. He also became Vice-Chancellor of the University of the Cape of Good Hope in 1873. The value of the appointment is £1000 per annum.

THE Whitworth Trustees have added to their gifts to Manchester 12½ acres of land, known as the Stanley Grove Estate, purchased by them for £27,000, for a hospital under the direction of the Owens College. The site is alongside the Whitworth Park.

ACCORDING to the will of the late Sir Edwin Chadwick, a trust fund is to be applied as the trustees shall direct for the advancement of sanitary science. By a codicil to his will, the testator suggests that the trustees may offer a cup of the value of £20 to be given annually, for a term of years, to sanitary authorities at home or abroad showing the greatest reduction in the death-rate of the population in their district. He suggests also the offer of a silver medal to the school teacher showing the best mental results of the half-time principle, and a gold medal for district school managers obtaining the best results in subjects named.

LAST week we referred, in a leading article, to a Conference convened by the National Association for the Promotion of Technical and Secondary Education for the purpose of considering the best means of utilizing the new fund placed at the disposal of County Councils under the Local Taxation Act of this year for the promotion of education. The Conference met on Friday, December 5, and was largely attended. Lord Hartington, who occupied the chair, opened the proceedings with a short speech, in which he urged that the best way of securing the fund will be to see that it is used for the purpose for which it was originally granted, by stimulating existing institutions in the work they are now doing, by adding a scientific and practical side to schools, and providing new schools where such do not now exist. There are, he pointed out, many ways in which the grant can be applied, and it is clear that one cut-and-dried system cannot be applied throughout the country. The system in urban districts must be different from that established in agricultural districts. The secretaries presented a report on the working of the Technical Instruction Act and the Local Taxation Act; and afterwards there was a most careful discussion of all aspects of the question which the Conference had met to consider. No formal motions were adopted, as several members of the Conference felt that they could not commit their County Councils to definite resolutions. In the course of the discussion Sir W. Hart Dyke assured the Association of his willingness in every possible way to co-operate with them. Mr. Mundella said the best result of the meeting would be if it insured the continuance of the grant in the channel in which they wished it to go. If this money was not promptly utilized for education, it might revert to the Treasury. No doubt embarrassment might be felt in some localities, but he would recommend in such case that the money should be placed in a suspense account, which the Act enabled them to do. The total absence of provision for intermediate education had been a grave defect in our system. Wales had appropriated the whole fund, and stood higher in respect of intermediate education than any other part of the country.

THE Second International Ornithological Congress will be held at Buda-Pesth in May 1891. The Hungarian Committee nvite all specialists and members of Ornithological Societies to attend the meeting. There will be excursions to various parts of Hungary of ornithological interest. An official programme will shortly be published.

At a meeting of the State Commissioners on Niagara Falls, held at New York on December 8, a report was presented from the State Engineer upon the survey which has just been made. According to a telegram sent through Dalziel's Agency, this report gives particulars of the recession of the Falls since 1742, when the first survey was made. It shows that the total mean recession of the Horse-Shoe Falls since 1742 has been 104 feet 6 inches. The maximum recession at one point is 270 feet. The mean recession of the American Falls is 30 feet 6 inches. The length of the crest has increased from 2260 to 3010 feet by the washing away of the embankment. The total area of recession of the American Falls is 32,900 square feet, and that of the Horse-Shoe Falls 275,400 feet.

Dr. Berghaus, the well-known geographer, died at Gotha on December 3.

The death is announced at Warsaw of Herr Anton Waga, one of the most eminent Polish naturalists, at the age of 91.

Mr. R. D. Oldham, of the Geological Survey of India, has been attached to the military expedition into the Zhob country. His principal duty will be to inquire into the reported oil-fields in the Shirani country. The last specimen examined by an expert has been declared of most excellent quality.

A despatch from Mexico states that an earthquake, lasting some minutes, occurred there on the evening of December 2. The shock was the severest felt for years, and the inhabitants rushed into the streets in terror.

Extensive subsidences of cliff have taken place at Walton-on-Naze, Essex. In one spot a surface area of 100 square feet slid bodily down to the beach, carrying with it part of a road leading to Frinton. Opposite the Marine Hotel, Walton, where the cliff is lower, a chasm large enough to berth a Thames steamboat has opened in the sea-front. The *Times* says that landslips have resulted from the loosening of the soil of the cliff through the action of springs, rather than from the direct attack of the sea.

The Decimal Association has issued a pamphlet containing a popular explanation of decimal coinage, weights, and measures, by Sir Guilford Molesworth and Mr. J. Emerson Dawson. The information is condensed as much as possible under different headings, all examples and evidence in support of the statements put forward being relegated to appendices.

At the meeting of the American National Academy of Sciences at Boston on November 11, 12, and 13, the following papers were presented:—On the primary cleavage products formed in the digestion of the albuminoid, gelatine, by R. H. Chittenden; on the classification and distribution of stellar spectra, by Edward C. Pickering; on the relation of atmospheric electricity, magnetic storms and weather elements, to a case of traumatic neuralgia, by R. Catlin; on the growth of children studied by Galton's method of percentile grades, by Henry P. Bowditch; on electrical oscillations in air, together with spectroscopic study of the motions of molecules in electrical discharges, by John Trowbridge; some considerations regarding Helmholtz's theory of dissonance, by Charles R. Cross; a critical study of a combined metre and yard upon a surface of gold, the metre having subdivisions to two millimetres, and the yard to tenths of inches, by W. A. Rogers; on evaporation as a disturbing element in the determination of temperatures, by W. A. Rogers; on the use of the phonograph in the study of the languages of the American Indians, by J. Walter Fewkes; on the probable loss in the enumeration of the coloured people of the United States, at the census of 1870, by Francis A. Walker; on the capture of periodic comets by Jupiter, by H. A. Newton; on the proteids of the oat-kernel, by Thomas B. Osborne; on the present aspect of the problems concerning Lexell's comet, by S. C. Chandler; the Great Falls coal-field, Montana, its geological age and relations, by J. S Newberry; notes on the separation of the oxides in cerite, samarskite, and gadolinite, by Wolcott Gibbs; on the relationships of the Cyclopteroidea, by Theo. Gill; on the origin of electro-magnetic waves, by Amos E. Dolbear.

A paper by Mr. W. B. Mason in the Transactions of the Seismological Society of Japan deserves the attention of all who take special interest in seismology. It contains a list of earthquakes recorded at telegraph stations in central and northern Japan from August 11, 1888, to December 31, 1889. Mr. Mason, while allowing for various sources of uncertainty in the observations, thinks that some results may be deduced from what are still meagre statistics. Thus of the 151 earthquakes recorded in Tokio only 89 were felt at the other telegraph stations. Some of those which were felt at all the stations seem to have been felt at almost exactly the same instant. In other words, there was no indication of a progression of the earthquake from point to point.

The Brooklyn Institute is making most praiseworthy efforts to raise the standard of geographical teaching in the United States. Through its Department of Geography it will open, about the new year, an exhibition of specimens of the best geographical text-books, maps, atlases, globes, reliefs, models, telluria, and other apparatus used in the various countries of Europe and America in their courses of gergraphical instruction. The collection will be exhibited first in the building of the Brooklyn Institute, then in New York, Philadelphia, Boston, Baltimore, Washington, Chicago, St. Louis, and other great centres of population. The entire collection, with the exception of specimens which have been lent, will afterwards be arranged as a permanent exhibition in the building of the Brooklyn Institute. *Science*, from which we learn these details, says that, in connection with the exhibition, the Brooklyn Institute is collecting material for a comprehensive report which it will publish regarding the position and methods of geographical instruction in America and Europe.

The Chief Signal Officer of the United States has just issued his Report for the year ending June 30, 1890. It shows that the meteorological department is yearly increasing in extent and importance; the duties include the issue of forecasts and storm warnings, the gauging of rivers for navigation and flood-warnings, the reporting of temperature and rainfall conditions for the cotton interests, the display of frost-warnings in the interest of agriculture, and the notification of advancing cold waves for the benefit of the general public. The average percentage of successful weather forecasts amounted to 82·6. Long time forecasts are also issued at the discretion of the forecast official, with successful percentages of 81·6 for 48 hours, and 80·5 for 72 hours. The demands for daily weather charts have increased to a remarkable extent; the subscription for them is two cents. a copy. The co-operation with the Meteorological Office in Paris is continued; each night a cablegram is sent to the latter office summarizing the synchronous meteorological observations, gales, derelicts and dangerous ice of the western Atlantic for the previous five days, together with the current weather conditions of the United States. Part of this information is regularly published in the Paris *Bulletin International*. The Report states that a card index of the stations in the United States at which meteorological observations have ever been taken is being prepared; when finished, it will afford a comprehensive history of the climatic observations in that country. Various important scientific researches are being carried on, among them the accurate determination of the velocity of the wind, and more particularly its actual pressure during violent gusts, by Prof. Marvin; the relation of the dewpoint to the subsequent movement of the storm-centre, by Captain Allen; and the determination of the average destruction caused by tornadoes, by Prof. Hazen. The average number of persons killed by them is 102 yearly—which is considerably less than the number killed by lightning. These reports will be eventually printed as appendices to the General Report.

At the meeting of the Linnean Society of New South Wales on October 29, Mr. J. J. Fletcher read a paper presenting contributions to a more exact knowledge of the geographical distribution of Australian Batrachia. While the broad facts relating to the geographical distribution of Australian Batrachia are fairly well known, much yet remains to be learnt respecting details, especially in regard to inland forms, since the species were originally described chiefly as they came to hand and without reference to the general batrachian fauna of the particular localities from which the types came, and with very few exceptions from coastal habitats. In Mr. Fletcher's paper, the first of what promises to be a useful series, three fairly complete collections are recorded from Dunoon, Richmond River (12 species); Guntawang, near Mudgee (13 species); and Dandaloo, Bogan River (10 species); and comparisons are instituted between the Batrachia of these localities and those of Port Jackson, the Blue Mountains, and Illawarra.

In the report on the Chillingham cattle, read at the British Association in 1887, the following statement is made: "The cattle live on good terms with the red-deer, but they will not tolerate fallow-deer or sheep in the park." With regard to this statement, Mr. C. Oldham, of Ashton-on-Mersey, says in the December number of the *Zoologist* that on September 13 last, when at Chillingham, he watched a small party of fallow-deer for some time, as they fed on the hill-side with five of the white cattle; and the keeper, Michie, assured him that both red- and fallow-deer live in perfect harmony with them, and, if in any way alarmed or disturbed, generally seek safety in their company. The editor of the *Zoologist* adds that in Mr. Assheton Smith's park at Vaynol, near Bangor, where he has just spent some weeks, white cattle and red- and fallow-deer roam together, and no such hostility as that above referred to has ever been noticed.

The collections of the Australian Museum, Sydney, are being steadily increased. In the report of the trustees for 1889, just received, it is stated that the principal purchases during the year were a collection of shells comprising some 15,000 species, and a collection of minerals, including specimens of gold from various parts of the world other than Australia. Several collecting expeditions were sent out with satisfactory results. The principal of these were:—(1) To Mount Kosciusko (Mr. R. Helms, collector), where an extensive collection of insects and other specimens from high altitudes, including many not previously represented in the Museum, was obtained. (2) To the Bellenden-Ker Ranges, north-eastern Queensland (Messrs. E. J. Cairn and R. Grant, collectors). This expedition obtained many rare mammals and birds of interest, including the remarkable tree kangaroo (*Dendrolagus lumholtzi*), and a new species of Petaurista, as well as a recently described new bower bird. (3) To Mount Sassafras, Shoalhaven District (Mr. R. Etheridge, palæontologist, and Mr. J. A. Thorpe, taxidermist, acting as collectors). This journey was undertaken with the view of obtaining some aboriginal remains, said to be concealed in a rocky recess at Mount Sassafras. The expedition was successful in obtaining the remains sought for, and in other ways. (4) To Blackhead, Illawarra District (Mr. A. J. North acting as collector). This was a short trip, to obtain certain fossils which were required to fill gaps in the collections. Abridgments of the reports of these various expeditions will be found in the first number of "The Records of the Australian Museum."

At the request of Prof. Baird, Mr. William Palmer accompanied the United States Fish Commission schooner *Grampus* on her summer cruise in 1887 for the purpose of observing and collecting the fish-eating birds, together with their eggs and young. Mr. Palmer contributes to the Proceedings of the United States National Museum (vol. xiii., pp. 249–265) a record of his observations, and this has now been printed separately. He treats each species briefly. As all on board were interested in the matter, and frequently called his attention to birds seen by them, he believes his list contains all the species that came within a reasonable distance of the vessel. It might naturally be supposed that on a cruise of this character sea-birds would be found to be generally numerous, but such was not the case. With few exceptions, and these mainly on breeding islands, birds were very scarce, most of the many species having completed their migrations, and being in the far north or inland. As to the relative abundance of the species, Mr. Palmer places the most prominent in the following order: puffins, shearwaters, black hagdons, murres, and gannets. Good skins were made of the greater number of the species, and in many cases, also, eggs, embryos, and young in various degrees of plumage, were obtained. The localities visited were as follows: the Magdalen Islands and Bird Rocks, in the Gulf of St. Lawrence; St. John's; Funk Island; Seldom Come By; Cape Freels Penguin Islands; Toulinguet and Canada Bay, in Newfoundland; Black Bay and Mingan Islands; Southern Labrador, and Percé, Canada. The time covered was from July 8 to August 31.

Mr. J. M. Coode records, in the new number of the Journal of the Bombay Natural History Society, the following instance of an exceptional method of hunting which the panther is occasionally forced to adopt. Mr. Coode was lately asked by the Patel of a village in the Amraoti district to accompany him one evening to a forest nursery of young bamboo shoots, to assist in killing a large boar which nightly visited the place and did immense damage. They waited for some time, when, just as is was getting dark, they heard the short guttural sound of a panther and heavy footfall of some running animal. The noises came nearer and nearer, until a nilghai and a panther could be distinctly seen against the sky-line, the former being chased by the latter. The nilghai kept moaning, and was evidently in an abject state of fear. The two ran round in a circle of about 160 yards diameter, within 30 yards of where the observers were standing, and passed them twice, both animals making their respective noises. They then disappeared, but Mr. Coode has reason to believe the nilghai got away.

The following are the principal contents of the Journal of the Bombay Natural History Society (No. 3, vol. v.):—On new and little-known butterflies from the Indian region, with descriptions of three new genera of Hesperidæ, by Lionel de Nicéville (with plates); Bombay grasses (Part 2), by Dr. J. C. Lisboa; on new and little-known Hymenoptera from India, Burma, and Ceylon, by Major C. T. Bingham, Forest Departments, Burma (with plates); mules, by J. H. Steel; notes on the larvæ and pupæ of some of the butterflies of the Bombay Presidency, by J. Davidson and E. H. Aitken (with plates); the butterflies of the Central Provinces (Part 3), by J. A. Betham; notes on the economic botany of the Cucurbitaceæ of Western India, by Dr. W. Dymock; list of Chin-Lushai butterflies, by Lionel de Nicéville.

Messrs. R. Friedländer and Son, Berlin, have just issued a catalogue of books relating to Invertebrata. It includes a very large number of important works on the special branch of zoology to which it relates.

IN our fifth note, on November 27, p. 87, *for* Friana *read* Triana.

AN important paper is contributed by MM. Barbier and Roux to the current number of the *Bulletin de la Société Chimique*, in which are described the final results of an elaborate experimental investigation concerning the relations between the optical dispersive power of the alcohols, ethers, and fatty acids, and their molecular weight and constitution. The relations brought to light, as might perhaps have been expected, are of the most regularly systematic character, and capable of expression in a few simple generalizations. The experimental portion of the work consisted in determinations of the refractive indices of the liquid in question at known temperatures, and for two widely separated lines of the spectrum of wave-lengths λ_a and λ_b. A measure of the dispersive power is then afforded by the amount of the difference between the values of the two indices thus obtained. It has also been shown that if the well-known expression of Cauchy, $n = A + \frac{B}{\lambda^2} + \ldots$, for the refractive index n be adopted, and for all practical purposes the expression appears to be sufficiently approximate, the constant B is a true measure of the dispersion. This value B is termed by MM. Barbier and Roux the dispersive power. In order, however, to eliminate differences due to the unavoidable differences of temperature at which the various determinations are made, the conventional expression $\frac{B}{d}$, where d represents the density of the liquid at the temperature of observation, is employed in the comparisons, and is called the specific dispersive power. The value of B is readily calculated from the two determinations of refractive index by means of the formula—

$$B = \frac{n_a - n_b}{\frac{1}{\lambda_a^2} - \frac{1}{\lambda_b^2}}$$

The general conclusion arrived at from the experiments upon the alcohols is that "the dispersive powers are continuous functions of the molecular weight, and they increase with increasing molecular weight in the fatty series, and decrease with ascending molecular weight in the aromatic series." Similarly as the result of the investigation of the ethers, it was found that "the value of the dispersive power augments with the molecular condensation." It was further remarked that "the values of the dispersive powers of isomeric ethers are practically identical." In illustration of this latter point, which appears to show that the dispersion practically depends alone upon the molecular weight of the substance, it may be noted that ordinary ether, ethyl oxide, and the isomeric mixed ether, methyl propyl oxide, both possess the same dispersive power, as do also propyl ether, ethyl isobutyl ether, and methyl isoamyl ether. It was also curiously observed that in the mixed ethers of the series $\left.\begin{matrix}(C_nH_{2n-1})\\(C_nH_{2+1})\end{matrix}\right\rangle O$, in which the unsaturated allyl radicals occur, the specific dispersive power is approximately the same for all the members of the series, while or the mixed ethers of the series $\left.\begin{matrix}(C_nH_{2n-7})\\(C_nH_{2n+1})\end{matrix}\right\rangle O$, in which the still further unsaturated aromatic radicles are introduced, the value actually diminishes as the molecular weight increases. The very important conclusion was also arrived at that the specific molecular dispersive power $\frac{B}{d}M$, where M represents molecular weight, of a compound is equal to the algebraic sum of the specific molecular dispersive powers of its constituents. Precisely analogous results were obtained from the experiments upon the liquid fatty acids, confirming the main generalization that dispersion is a true function of the molecular weight.

THE additions to the Zoological Society's Gardens during the past week include a Barbary Ape (*Macacus inuus* ♂) from North Africa, presented by Madame Ruoy; a White-fronted Capuchin (*Cebus albifrons* ♂) from South America, presented by Mrs. Akers-Douglas; a Pinche Monkey (*Midis œdipus* ♀) from New Granada, presented by Mr. J. Barry O'Callighan; a Himalayan Bear (*Ursus tibetanus* ♀) from Beloochistan, presented by Mr. B. T. Ffinch, C.M.Z.S.; a Common Raccoon (*Procyon lotor*) from North America, presented by Mr. C. E. Brewerton; a Greater White-crested Cockatoo (*Cacatua cristata*) from Moluccas, presented by Mr. C. J. Cassirer; a Blue and Yellow Macaw (*Ara ararauna*) from Brazil, presented by Mr. A. Cohen; a Pennant's Parrakeet (*Platycercus pennanti*) from Australia, presented by Mrs. Moon; a Water Rail (*Rallus aquaticus*), British, presented by Mr. T. E. Gunn; two Alligators (*Alligator mississippiensis*) from Florida, presented by Mr. Henry Birkbeck; two —— Snakes (*Pituophis melanoleucus*) from New Jersey, U.S.A., presented by Mr. Morton Middleton; two Snow Buntings (*Plectophanes nivalis*), European, purchased; a Vulpine Phalanger (*Phalangista vulpina*), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

THE PHOTOGRAPHY OF SOLAR PROMINENCES.—Mr. G. E. Hale, of Kenwood Physical Observatory, Chicago, describes in *Astronomische Nachrichten*, No. 3006, the results of some attempts made last winter to photograph solar prominences. One of the methods employed is to alter the rate of the driving clock of the equatorial, so that a prominence may move slowly across the slit of a spectroscope adjusted radially on the sun's image. A prominence line, say C, is brought into the centre of the field of the observing spectroscope, and at the same time falls upon a photographic plate having a motion such that the radius of curvature of the sun's limb upon it is the same as that of the focus of the equatorial.

A second method proposed is to use a stationary solar image and photographic plate, with two slits in uniform motion—one the radial slit of a spectroscope, the other a slit moving directly in front of the plate.

The plates have been stained with cyanin, alizarin, and erythrosin for the photography of the prominence lines C and D_3, utilized in the experiments. The work is to be resumed shortly with a rotating cylinder, having upon its circumference a strip of dyed celluloid film moving across the focus of the observing telescope, instead of the plates previously used. If this be done, and a uniform motion given by a good clock or clepsydra, some definite results may be expected.

THE FREQUENCY OF METEORS.—MM. Terby and Van Lint made some observations of the relative frequency of meteors on August 9 and 10, 1890 (*Bulletin de l'Académie Royal des Sciences, Brussels*, No. 9, 1890). An inspection of the observations tabulated shows that before midnight an observer whose field of view embraced one fifth of the horizon, saw from three to five meteors in fifteen minutes. This number was increased after midnight, however, so that an observer, viewing one-sixth of the sky, saw from five to six meteors in the same interval. On August 10 a maximum appeared to be reached between 12h. 30m. and 13h. 11m., the average in that interval being one in two minutes. Only two meteors were observed whose brilliancy was comparable with that of Jupiter. The trains were few, and of short duration.

THE ANNIVERSARY OF THE ROYAL SOCIETY. [1]

THE proceedings of every anniversary meeting remind us of the losses which the Society has sustained during the preceding year by the deaths of several of its Fellows. Of

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[1] Presidential address delivered by Sir George Stokes at the anniversary meeting, December 1.